REMARKS

Claims 1-18 are pending in this application. The Examiner rejected all of the claims under 35 U.S.C. §102(e) as being anticipated by Britt et al (U.S. Patent 5,940,074). Claims 1, 8, 17 and 18 have been cancelled. Claims 2, 3, 5, 9-12, 15 and 16 have been amended. No new matter is introduced.

In the present office action, the Examiner states that Britt discloses all of the features of claims 1 and 8. Britt discloses a WebTV client-server system that enables a user of the system to access the Internet through an ordinary television set. In particular, the Examiner refers generally to the "email" capability of the WebTV client in order to reject the Applicants' arguments that Britt does not disclose a router that "attempts to transfer messages to embedded devices on a data network regardless of whether the devices are active." Britt does not explicitly refer to any particular email communication protocol. Thus, Applicants assume that Britt refers to the Simple Mail Transfer Protocol (SMTP) that is commonly implemented for Internet email.

The mere statement that Britt discloses "email" does not anticipate the present invention as now claimed. In particular, electronic mail servers, such as SMTP servers or the WebTV server, do not provide guaranteed delivery of messages to embedded devices in a data network in a manner that is independent of communication platform. Claims 3 and 10, now rewritten in independent form, have been amended to include such features.

Regarding claim 3, a message router system is claimed that includes a router coupled to a message store and a queue manager. The queue manager queues messages from one or more server processes that are destined for plural embedded devices. Each message is addressed to one of the embedded devices with a unique identifier that is independent of any communication protocol. The queue manager establishes a connection with the router to transfer the queued messages. For each message, the router determines a destination address according to a communication protocol that corresponds to the unique identifier of the embedded device. The router then transmits the message directly to the destination address of the embedded device

regardless of whether the embedded device is active at that particular moment in time. The router waits for acknowledgment that the messages were received from the embedded devices. If an acknowledgment is not received, such as when an embedded device is powered off, the unacknowledged messages are kept in a message store. These unacknowledged messages are kept in the message store until the corresponding embedded devices can accept messages, such as when the embedded devices are powered on. Claim 10 recites similar features for a method. Support for these amendments can be found in Figs. 2B and 2C and in the surrounding discussion from page 15, line 3 to page 18, line 17.

By queuing messages addressed with unique identifiers that are independent of any communication protocol and then translating the unique identifiers into destination addresses of the embedded devices, server processes can be implemented to communicate directly with individual devices unaware of the underlying communication protocols (e.g., SMTP, TCP/IP, etc). Thus, the present invention facilitates portability across different communication platforms.

Britt does not teach a system of guaranteed message delivery that is independent of communication platform. Britt does not teach, prior to message transmission, queuing messages addressed with unique identifiers that are independent of any communication protocol and then determining destination addresses according to a communication protocol that correspond to the unique identifiers of the embedded devices, as now recited in claims 3 and 10. Rather, Britt refers to a WebTV client-server system that communicates messages directly using an addressing scheme defined by "email" and TCP/IP communication protocols. (See Britt, col. 9, lns. 1-28).

For example, according to the SMTP protocol, an email message identifies an intended recipient of the message by an email address. However, email addresses are not "unique identifiers that are independent of any communication protocol" as now recited in claims 3 and 10. (Support for this feature is found at least on page 15, lines 3-12.) For example, the format of an email address, "name@domain," is defined by SMTP. Furthermore, an email address does not correspond to a destination address of an embedded device. Instead, an email address is resolved into an address of a mail server, and not the intended recipient of the

message. Therefore, an electronic mail server cannot "for each message, [determine] a destination address . . . that corresponds to the unique identifier of the embedded device" and thus cannot "[transmit] the message directly to the destination address of the embedded device."

Furthermore, Applicants maintain that Britt does not transmit messages to embedded devices "regardless of whether the devices are active on a data network" as recited in claims 3 and 10. For example, mail servers transfer e-mail messages to individual clients only in response to client requests. For example, to initiate an email message transfer, a user must execute an email client that connects to the mail server causing the server to download the messages to the client.

Likewise, in the passage cited by the Examiner, Britt refers to a process for remote upgrade of client software over a network that does not involve transmission of server messages to embedded devices "regardless of whether the devices are active on the data network." Rather, in Britt, the process for remote upgrade of client software requires that the client device be active on the network and, moreover, initiate the process. In particular, whenever a WebTV client is powered on, the client first executes a script to initiate a connection to a WebTV server. After the connection is established, the server detects whether a software upgrade is available for the client. If so, the server sends a command to the client that causes the client to reset and then request a software download for the upgrade. Such server command messages are not transferred regardless of whether the device is active or not. Rather, these messages are transferred only after the client establishes a connection with the server. (See Britt, Figs. 6 and 7; col. 8, ln. 13 to col. 9, ln 34). Thus, whether the messages are email or download requests, Britt teaches a method in which such messages are transferred to clients only if the clients are actively connected to the server or if the client request such messages.

In contrast, the message router of the present invention, as recited in claim 3, attempts to transmit messages to client devices on the data network regardless of whether those devices are active (e.g., powered on). Thus, the message router is able to control the timing of message delivery. Preferably, message delivery occurs during off-peak hours when bandwidth utilization

is typically at a minimum or when detected bandwidth utilization falls below a predetermined level. (See subject specification, page 22, lines 4-9). If an embedded client device is not active and thus does not acknowledge message receipt, the message router stores the unacknowledged message in a message store for later delivery when the device becomes active.

Thus, Britt does not anticipate features of amended claims 3 and 10, specifically the features of (i) queuing messages from one or more server processes with each of the messages being addressed to an embedded device with a unique identifier that is independent of any communication protocol; (ii) for each message, determining a destination address that corresponds to the unique identifier of the embedded device; and (iii) transmitting the message directly to the destination address of the embedded device over the data network regardless of whether the embedded devices are active on the data network.

For at least these reasons, the prior art of record does not teach or suggest the present invention as defined in amended claims 3 and 10 and thus are patentable. By virtue of their dependency upon claims 3 and 10, it is believed that claims 2-7 and 9-18 as amended are also patentable.

Furthermore, claims 2 and 9 are now amended to recite tracking "activity states" of embedded devices on the data network to determine whether the embedded devices are able to receive messages. Britt does not track activity states of embedded devices. Britt only detects whether the state of the software on the client device requires an upgrade. (See Britt, col. 8, lns. 34-42). For at least these additional reasons, claims 2 and 9 are not taught or suggested by the prior art of record and thus are patentable.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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